

CLAIMS

1. A method of treatment of an existing papillomavirus (PV) infection which includes the step of administration of PV VLPs selected from the group consisting of PV L1 VLPs and PV L1/L2 VLPs to a patient
5 suffering from the PV infection.
2. A method of treatment as claimed in Claim 1 wherein the PV infection is characterised by the presence of epithelial lesions.
3. A method of treatment as claimed in Claim 2 wherein the
10 epithelial lesions are selected from the group consisting of palmar warts, planter warts, ano-genital warts, flat and planar warts of the skin and muscosal surfaces, CIN, equine sarcoid and replicating or vegetative PV infection.
4. A method of treatment as claimed in Claim 3 wherein the PV infection is genital warts caused by HPV 6, 11, 34, 39, 41-44 and 51-55.
- 15 5. A method of treatment as claimed in Claim 4 wherein the genital warts are caused by HPV 6 and HPV11.
6. A method of treatment as claimed in any preceding claim wherein the VLPs are produced by cloning the PV L1 gene into a suitable vector and expressing the corresponding conformational coding
20 sequence for L1 in an eukaryotic cell transduced by the vector.
7. A method of treatment as claimed in Claims 1-5 wherein the VLPs are produced by cloning the PV L1 and L2 genes into a suitable vector and expressing the corresponding conformational coding sequence for L1 and L2 in an eukaryotic cell transduced by the vector.

8. A method as claimed in Claim 6 or 7 wherein the L1 or L1 and L2 genes are inserted into an expression vector containing flanking sequences to form a gene construct and the resulting recombinant DNA is co-transfected with wild type baculovirus DNA into a permissive cell line.
- 5 9. A method as claimed in Claim 6 or 7 wherein the cell line is Sf9 insect cells and the expression vector is a baculovirus expression vector.
10. A method as claimed in Claim 8 wherein the cell line is a procaryotic cell line.
- 10 11. A method as claimed in any preceding claim wherein the concentration of PV VLPs administered to the patient is 0.5-20 µg.
12. A method as claimed in Claim 11 wherein the concentration is 1-10 µg.
13. A method of treatment as claimed in Claim 1 wherein the VLPs exclude adjuvant.
- 15 ~~13.14~~ A method of treatment as claimed in Claim 11 or 12 wherein dosages of PV VLPs are given 3-6 times over a period of 8-16 weeks.
- ~~14.15~~ A method of treatment as claimed in Claim 11 wherein dosages of PV VLPs are 3-6 times over a period of 2-4 weeks.
- 20 ~~15.16~~ A method of immunization against HPV11 infections by administration of HPV6 VLPs to a patient.
- ~~16.17~~ A method as claimed in Claim 15 wherein HPV6b VLPs are administered to the patient.
- ~~17.18~~ A method as claimed in Claim 15 or 16 wherein the

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concentration of HPV6 VLPs are 0.5-20 μ g.

~~16.19~~ A method as claimed in Claim 17 wherein the concentration of HPV6 VLPs are 1-10 μ g.

~~16.20~~ A method as claimed in Claim ~~17~~ or ~~18~~ wherein dosages of HPV6 VLPs are given 3-6 times over a period of 8-16 weeks.

~~20.21~~ A method as claimed in Claim 17 or 18 wherein dosages of HPV6 VLPs are given 3-6 times over a period of 2-4 weeks.

✓ ~~21.22~~ A method of immunization against HPV6 infections by administration of HPV11 VLPs to a patient.

10. ~~22.23~~ A method of immunization as claimed in Claim 21 wherein the concentration of HPV11 VLPs is 0.5-20 μ g.

~~23.24~~ A method of immunization as claimed in Claim 22 wherein the concentration of HPV11 VLPs is 1-10 μ g.

~~24.25~~ A method of immunization as claimed in Claim 22 or 23 wherein dosages of HPV11 VLPs are given 3-6 times over a period of 8-16 weeks.

~~25.26~~ A method of immunization as claimed in Claim 22 or 23 wherein dosages of HPV11 VLPs are given 3-6 times over a period of 2-4 weeks.

20. ~~26.27~~ A method of treatment of an existing PV infection which includes the step of administration of PV VLPs without adjuvant to a patient suffering from the PV infections.

~~27.28~~ A method of treatment as claimed in Claim 27 wherein the PV VLPs are chimeric.

~~28.29~~ A method of treatment as claimed in Claim 26 wherein the PV VLPs comprise E protein.

~~28.30~~ A method of treatment as claimed in Claim 1 wherein the PV VLPs include an adjuvant.

5 ~~28.31~~ A method of treatment as claimed in Claim 29 wherein the adjuvant is one that induces cellular responses.

~~31.32~~ A method of treatment as claimed in Claim 30 wherein the adjuvants are selected from the group consisting of (1) lipid A and derivatives, (2) Quillaia saponins and derivatives, (3) mycobacteria and components or derivatives therefrom and (4) IL 12, GMCSF, other Th1
10 inducing cytokines and (5) oxidized mannan and analogues thereof.